

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in this application:

Listing of Claims

1. (Currently amended) A robotic platform comprising:
a body defining at least three corners thereof;
at least two locomotion members for moving said body; each of said at least two locomotion members ~~being mounted to said body via a steering assembly so as to pivot in a first plane relatively to said body; each of said at least two locomotion members including an endless track assembly having a driving wheel, a drive system for driving said driving wheel at one end thereof, a driven wheel at an opposite end thereof, an endless track for coupling said driven wheel to said driving wheel for rotation in unison, and a track tensioning assembly for pivoting said locomotion member in a second plane perpendicular to said first plane~~ said driving wheel being pivotably mounted to said body at a said corner thereof;
~~at least one controller mounted to said body and being coupled to said at least two locomotion members; said at least one controller being configured to actuate the movement of said at least two locomotion members; and~~
~~a power supply system mounted to said body and being coupled to said at least one controller for energizing said at least one controller and said at least two locomotion members~~ wherein each said locomotion member is pivotable about a respective said corner in at least a first plane relative to said body.

2. (Currently amended) A robotic platform as recited in claim 1, ~~comprising four locomotion members,~~ wherein each said locomotion member further comprises a drive system for driving said driving wheel.

3. (Cancelled)

4. (Currently amended) A robotic platform as recited in claim ~~3~~ 91, wherein said steering assembly includes a pivoting actuator; said robotic platform comprising at least one controller being configured to control said driving wheel actuator, said driving mechanism for said track-tensioning assembly, ~~and said pivoting actuator.~~

5. (Currently amended) A robotic platform as recited in claim ~~3~~ 4, wherein said mounting assembly includes a first mounting plate and a second mounting plates plate secured to one another so as to face each other and as to provide a gap therebetween.

6. (Original) A robotic platform as recited in claim 5, wherein said driving wheel actuator includes a motor, having an output driving shaft, mounted to said second mounting plate on a side opposite said first mounting plate so that said output driving shaft extends through said second mounting plate towards said first mounting plate, an internally toothed gear coaxially mounted on said second plate between said first and second plates and being provided with inner toothed gear operatively coupled to the output driving shaft of said motor via a pulley assembly; whereby, in operation, rotation of the driving shaft causes the rotation of the internally toothed gear.

7. (Cancelled)

8. (Cancelled)

9. (Cancelled)

10. (Cancelled)

11. (Currently amended) A robotic platform as recited in claim 1, wherein said track-tensioning assembly includes a support frame mounted within said endless track to both said driving wheel and said driven wheel therebetween; said driving wheel being received in a ring portion of said support frame.

12. (Original) A robotic platform as recited in claim 11, wherein said tensioning assembly includes a tensioning sub-assembly for adjusting the tension of said endless track.

13. (Currently amended) A robotic platform as recited in claim 12, wherein said tensioning sub-assembly includes a driven wheel mounting bracket; said driven wheel being rotatably mounted to said bracket; said driven wheel mounting bracket being mounted to said ~~frame support~~ support frame so as to be selectively movable within said endless track in a direction away from said driving wheel and generally defined by said endless track.

14. (Cancelled).

15. (Currently amended) A robotic platform as recited in claim 11, wherein said tensioning assembly includes two skid plates mounted transversally to said support frame on opposite lateral ~~sides~~ sides thereof for supporting said endless track.

16. (Currently amended) A robotic platform as recited in claim 1, wherein said driving wheel has a diameter that is larger than the diameter of said driven wheel.

17. (Currently amended) A robotic platform as recited in claim 1, wherein said driven wheel has a diameter that is larger than the diameter of said driving wheel.

18. (Original) A robotic platform as recited in claim 1, wherein said driving wheel includes a protective disk mounted on a peripheral surface thereof; said protective disk extending radially from said driving wheel.

19. (Original) A robotic platform as recited in claim 18, wherein said protective disk is covered by a coating.

20. (Cancelled)

21. (Original) A robotic platform as recited in claim 1, wherein each of said at least two locomotion members includes at least one position sensor for measuring displacements of said at least two locomotion members.

22. (Cancelled)

23. (Cancelled).

24. (Cancelled)

25. (Original) A robotic platform as recited in claim 1, wherein said body includes a chassis.

26. (Currently amended) A robotic platform as recited in claim 25, wherein said driven wheel is mounted to said body about a corner thereof via steering assembly so as to pivot in said first plane, said steering assembly ~~is~~ being mounted to said chassis.

27. (Cancelled)

28. (Cancelled)

29. (Original) A robotic platform as recited in claim 26, wherein said steering assembly includes a motor secured to said chassis via a motor bracket.

30. (Cancelled)

31. (Cancelled)

32. (Original) A robotic platform as recited in claim 25, wherein said body includes columns mounted on said chassis.

33. (Original) A robotic platform as recited in claim 32, wherein said body further includes a mounting plate mounted on top of said chassis via said columns; said mounting plate allowing receiving equipments to be carried by the robotic platform.

34. (Original) A robotic platform as recited in claim 32, further comprising handles secured to said columns.

35. (Original) A robotic platform as recited in claim 25, further comprising at least one interface panel secured to said chassis and connected to said at least one controller.

36. (Currently amended) A robotic platform as recited in claim 25, further comprising a shell mounted ~~unto~~ onto said chassis.

37. (Original) A robotic platform as recited in claim 36, wherein said shell includes shell portions; each said shell portions being removably secured to said chassis so as to selectively allow access to internal parts of said body.

38. (Cancelled)

39. (Cancelled)

40. (Cancelled)

41. (Cancelled)

42. (Currently amended) A robotic platform as recited in claim 1, further comprising:

~~a body;~~

~~a locomotion assembly mounted to said body for moving said body; said locomotion assembly including at least one locomotion member for displacement of said body and a steering assembly including a steering mechanism for steering said body; each of said at least one two locomotion member members including a~~
respective drive assembly and a respective locomotion controller coupled to said drive assembly; said steering assembly including a ~~steering controller~~ locomotion member coupled to said steering mechanism;

an environment recognition module mounted to the platform for gathering environment data indicative of the environment surrounding the robotic platform; said environment recognition module including a sensor and a recognition module controller coupled to said sensor;

an energizing module including a power supply controller and an energizing system connected to said locomotion assembly and said environment recognition module for energizing said locomotion assembly and said environment recognition module; and

a communication data bus interconnecting said at least one locomotion controller, said ~~steering controller~~ locomotion member and said environment recognition module controller for communicating status data therebetween;

whereby, in operation, said locomotion controller, ~~steering controller~~ locomotion member, recognition module controller, and power supply controller exchanging status data about said drive assembly, said steering assembly, said environment recognition module, and said energizing system via said communication data bus, and using said status data to control said drive assembly, said steering assembly, said environment recognition module, and said energizing system respectively.

43. (Currently amended) A robotic platform as recited in claim 42, wherein said ~~steering controller~~ locomotion member is coupled to said steering mechanism via a sensor mounted to said steering mechanism; said sensor being coupled to said ~~steering controller~~ locomotion member.

44. (Original) A robotic platform as recited in claim 42, wherein said locomotion controller is coupled to said drive assembly via a sensor mounted to said drive assembly; said sensor being coupled to said locomotion controller.

45. (Currently amended) A robotic platform as recited in claim 42, further comprising a central control system, coupled to said locomotion controller, ~~said steering controller~~ and said recognition module controller, for receiving status data about said drive assembly, said steering assembly, said environment recognition module, and said energizing system via said communication data bus, and using said status data for coordinating and selectively controlling said drive assembly, said steering assembly, said

environment recognition module, and said energizing system so as to achieve at least one predetermined operational mode.

46. (Original) A robotic platform as recited in claim 45, wherein selectively controlling said drive assembly, said steering assembly, said environment recognition module, and said energizing system includes sending query messages to said environment recognition module via said communication data bus, and receiving distance evaluation from said environment recognition module.

47. (Original) A robotic platform as recited in claim 45, wherein selectively controlling said drive assembly, said steering assembly, said environment recognition module, and said energizing system includes sending query messages to said at least one locomotion controller via said communication data bus, receiving data from said locomotion member indicative of said locomotion member configuration, and sending command messages to control said at least one locomotion member according to said data indicative of said locomotion member configuration.

48. (Cancelled).

49. (Cancelled)

50. (Cancelled)

51. (Cancelled)

52. (Cancelled)

53. (Cancelled)

54. (Cancelled)

55. (Cancelled)

56. (Cancelled)

57. (Cancelled)

58. (Cancelled)

59. (Cancelled)

60. (Currently amended) A robotic platform as recited in claim 42, wherein said communication data bus allows for the exchange of queries and data between said at least one locomotion controller, ~~said steering controller~~ and said recognition module controller.

61. (Currently amended) A robotic platform as recited in claim 42, wherein said at least one locomotion controller, ~~said steering controller~~ and said recognition module controller communicate via said communication data bus using the Control Area Network (CAN) protocol.

62. (Original) A robotic platform as recited in claim 61, wherein the version 2.0B of said CAN protocol is used.

63. (Currently amended) A robotic platform as recited in claim 61, wherein said at least one locomotion controller, ~~said steering controller~~ and said recognition module controller communicate via said communication data bus using CAN data frame including an arbitration field characterized by at least one of a priority, a message type, a command or query, and a hardware address indicative of a module identity.

64. (Currently amended) A robotic platform as recited in claim ~~63~~ 61, wherein said message ~~type~~ is used for a receiving module filtering frames and includes at least one of emergency query, high-priority actuator, high-priority sensor low-priority actuator, and low-priority sensor.

65. (Cancelled)

66. (Original) A robotic platform as recited in claim 42, wherein said energizing system includes at least one power source selected from the group consisting of a battery, a battery pack, a fuel cell.

67. (Original) A robotic platform as recited in claim 42, further comprising a pitch gauge system mounted to said body for measuring the pitch of said body and including a pitch measuring device and a pitch device micro-controller connected to said communication data bus and coupled to said pitch device.

68. (Original) A robotic platform as recited in claim 67, wherein said pitch measuring device is a pitch gauge or an inertial system.

69. (Cancelled)

70. (Currently amended) A robotic platform as recited in claim 42, further comprising a computer system configured to communicate with said locomotion controller, ~~said steering controller~~, said recognition module controller, and said power supply controller via the communication data bus and to control said locomotion controller, ~~steering controller~~, recognition module controller, and said power supply controller.

71. (Cancelled).

72. (New) A robotic platform as recited in claim 1, wherein each said locomotion member is pivotable about a respective said corner in a second plane relative to said body perpendicular to said first plane.

73. (New) A robotic platform as recited in claim 1, wherein said body comprises a top surface, a bottom surface and a peripheral contour therebetween, said at least two locomotion members being mounted to said peripheral contour.

74. (New) A robotic platform as recited in claim 1, wherein each said driving wheel is so configured as to move away from said body when pivoting in said first plane.

75. (New) A robotic platform as recited in claim 72, wherein said driving wheel is so configured as to move away from said body when pivoting in at least one of said first and second planes.

76. (New) A robotic platform as recited in claim 1, wherein each said locomotion member comprises a modular assembly being removably mountable to said body, said locomotion modular assembly comprising a driving system for driving said driving wheel, a steering system mounted to said driving wheel and removably mounted to said body about a corner thereof for pivoting said wheel about said first plane.

77. (New) A robotic platform as recited in claim 76, wherein said locomotion modular assembly further comprises a track-tensioning assembly for pivoting said driving wheel about a respective said corner in a second plane relative to said body perpendicular to said first plane.

78. (New) A robotic platform as recited in claim 76, wherein said body comprises a chassis defining said at least three corners, each said steering assembly of each locomotion modular assembly comprising a motor for being mounted to said chassis about a said corner thereof.

79. (New) A robotic platform as recited in claim 1, wherein each of said at least two locomotion members are independently pivotable in said first plane.

80. (New) A robotic platform as recited in claim 79, wherein each of said at least two locomotion members are independently pivotable in said second plane.

81. (New) A robotic platform as recited in claim 1, wherein said body comprises four corners, said robotic platform comprising four locomotion members, each said locomotion member being mounted about a respective said corner.

82. (New) A robotic platform as recited in claim 81, wherein each said locomotion member is pivotable about a respective said corner in a second plane relative to said body perpendicular to said first plane.

83. (New) A robotic platform as recited in claim 82, wherein each of said at least two locomotion members are independently pivotable in said first plane.

84. (New) A robotic platform as recited in claim 82, wherein each of said at least two locomotion members are independently pivotable in said second plane.

85. (New) A robotic platform as recited in claim 1, wherein each said driving wheel of each said locomotion member is mounted to said body about a said corner thereof via a steering assembly so as to pivot in said first plane.

86. (New) A robotic platform as recited in claim 72, wherein each said locomotion member comprises a track tensioning assembly for pivoting said locomotion member in said second plane.

87. (New) A robotic platform as recited claim 81, wherein each said driving wheel of each said locomotion member is mounted to said body about a said corner thereof via a steering assembly so as to pivot in said first plane.

88. (New) A robotic platform as recited in claim 82, wherein each said locomotion member comprises a track tensioning assembly for pivoting said locomotion member in said second plane.

89. (New) A robotic platform as recited in claim 1, further comprising at least one controller mounted to said body and being coupled to said at least two locomotion members; said at least one controller being configured to actuate the movement of said at least two locomotion members.

90. (New) A robotic platform as recited in claim 89, further comprising a power supply system mounted to said body and being coupled to said at least one controller for energizing said at least one controller and said at least two locomotion members.

91. (New) A robotic platform as recited in claim 2, wherein each said locomotion member comprises a track tensioning assembly for pivoting said locomotion member in said second plane, said drive system including a mounting assembly, a driving wheel actuator, a driving mechanism for said track-tensioning assembly, and a driving wheel support structure mounted to said mounting assembly

92. (New) A robotic platform as recited in claim 42, wherein said at least one locomotion member includes at least one position sensor for measuring displacements of said at least one locomotion member.

93. (New) A locomotion modular assembly for being removably mounted to the body of a robotic platform and comprising:

at least a first wheel mountable to the robotic platform body, a driving system for driving said first wheel; and

a steering system mounted to said first wheel for pivoting thereof pivotable about a first plane relative to the robotic platform body when mounted thereto

94. (New) A locomotion modular assembly as recited in claim 93, further comprising a tensioning assembly for pivoting said first wheel about a second plane relative to the body when mounted thereto, said second plane being perpendicular to said first plane.

95. (New) A locomotion modular assembly as recited in claim 93, further comprising a second wheel, said first wheel being a driving wheel, said second wheel being a driven wheel.

96. (New) A locomotion modular assembly as recited in claim 95, wherein an endless track couples said driving wheel to said driven wheel for rotation in unison.

97. (New) A locomotion modular assembly as recited in claim 93, wherein said steering assembly is removably mountable to the robotic platform body.

98. (New) A locomotion modular assembly as recited in claim 93, wherein the robotic platform body comprises a chassis, said locomotion modular assembly further comprising a motor for being mounted to the chassis.